

THE AMERICAN MINERALOGIST

JOURNAL OF THE MINERALOGICAL SOCIETY OF AMERICA

VOL. 6

DECEMBER, 1921

No. 12

WULFENITE FROM LAVIC, CALIFORNIA

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Although wulfenite is of frequent occurrence in the western portion of the United States, it has not been found to exhibit a great variety of habit. It is almost always thin tabular, showing the base in simple combination with one or two pyramids of the second order. Pyramids of the first order are frequently entirely lacking, and if present are of insignificant size, and prism faces are of especially rare occurrence. The two crystals we have investigated show such interesting features as to make worth while a brief description. The first crystal (Fig. 1), which was about $\frac{3}{4}$ mm. in width, is unusually symmetrical in its habit and has two first order pyramids prominently developed. The crystal was supported by a minute projection of quartz attached to the (001) face in such a manner as to permit both ends to be well terminated. The form Φ is an extremely flat third order pyramid and has been described at considerable length in a previous paper.¹ At the time that paper was written, the face was found to be a very characteristic one for this portion of the United States, but the values on the Goldschmidt goniometer were found to be very variable and no crystals were then observed showing good development of more than two or three members of this form on one individual. The symbol as then calculated from the values obtained from 13 faces gave a result near (1.7.81). The crystal now described seemed to be of such superior symmetry that it was thought the values obtained would be more representative than the earlier results. This was found, however, not to be the case and we are driven to the conclusion that the form is a variable, altho very characteristic one, and that a definite symbol cannot be assigned to it. The present average, obtained by measuring 8 faces on one individual (Fig. 1), gave

¹ Guild, "Mineralogische Notizen," *Z. Kryst. Min.*, 49, 321, 1911.

the symbol (1.7.96). The extreme values obtained as a result of all of our investigations are near (1.7.75) and (1.7.98). Dana³ mentions 1.7.75 as a doubtful form and Goldschmidt² further emphasizes its uncertainty, recommending its omission from angle tables. We have little doubt that this is the same face as that now under discussion.

The other forms represented on this crystal (Fig. 1) are all well known and require no special description. They are c (001), o (012), e (011), b (113), p (111) and π (133); o is a curved face and shows an almost continuous reflection starting at (012) and fading out near (013).

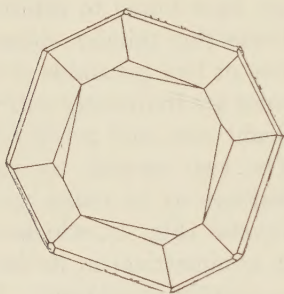


FIG. 1.

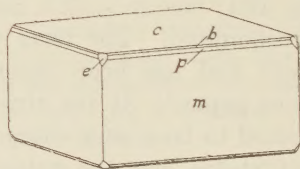
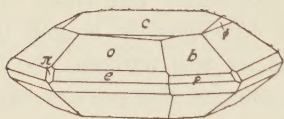
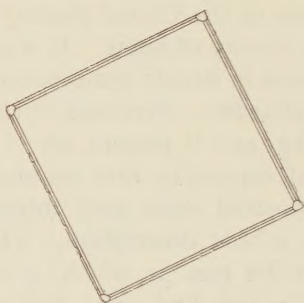


FIG. 2.

The other crystal (Fig. 2), which was taken from a group of similar individuals, is shown mainly on account of its great simplicity and the good development of the prism m (110). The crystals, which were all about 1 mm. across, appeared like slightly flattened cubes. The faces gave satisfactory goniometer signals, with the exception of the prism which was badly etched. As shown in the drawing, the following forms are represented: c (001), b (113), p (111), e (011), and m (110).

Acknowledgement is due to Mr. R. M. Wilke, of Palo Alto, California, from whom the two specimens were obtained.

¹ Dana, System, 6th Ed., p. 990. ² Goldschmidt, Winkeltabellen, p. 425.

TWO NEW FORMS ON QUARTZ FROM PIKES PEAK

ALFRED C. HAWKINS.

Rochester, New York.

The crystal studied is $6 \times 2 \times 1\frac{1}{2}$ cm., brown, and translucent with phantoms. It is of the well-known tapering habit, and grew on microcline, some of which still adheres to its base. The prism faces are brilliant, but most of the others are etched to a smooth velvety finish so that the goniometer signal appears as a bright point of light. There are two forms present which do not appear to have been recorded on quartz heretofore, (71 $\bar{8}$ 3), two faces of which are well developed and indeed prominent; and (51 $\bar{6}$ 3), represented by a single small but definite face. The angles of all the forms present on the crystal are collected in the following angle-table:

Letter	Symbol		Angles			
	Gdt.	Brav.	Measured		Calculated	
			φ	ρ	φ	ρ
b.....	0	10 $\bar{1}$ 0	0° 00'	90° 00'	0° 00'	90° 00'
r, ρ	± 10	10 $\bar{1}$ 1	"	51 48	"	51 47
ψ	$-\frac{7}{3}0$	07 $\bar{7}$ 3	"	71 20	"	71 21
Δ	$-\frac{14}{3}0$	0.14. $\bar{1}$ 4.3	"	79 57	"	80 25
Γ	$-\frac{13}{2}0$	0.13. $\bar{1}$ 3.2	"	83 02	"	83 05
C, β	± 70	70 $\bar{7}$ 1	"	83 50	"	83 35
B, α	± 80	80 $\bar{8}$ 1	"	84 38	"	84 23
J.....	$1\frac{5}{6}$	6.5. $\bar{1}$ 1.6	27 19	64 37	27 00	63 39
*.....	$+\frac{5}{3}\frac{1}{3}$	51 $\bar{6}$ 3	8 57	67 43	8 57	67 29
x, ϵ	± 51	51 $\bar{6}$ 1	"	82 17	"	81 57
*.....	$+\frac{7}{3}\frac{1}{3}$	71 $\bar{8}$ 3	6 31	73 52	6 35	72 38

* New forms, not lettered.

CORRECTIONS TO LIST OF FELLOWS OF M. S. A.

Further omissions have been discovered in the list of charter fellows of the Mineralogical Society of America, published in the February number (p. 46): Insert in this list: Dr. L. L. Hubbard, Houghton, Michigan, and Frank A. Wilder, North Holston, Va.

PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, October 13, 1921

A stated meeting of the Philadelphia Mineralogical Society was held on the above date, with Vice-President Trudell presiding, and seventeen members present. Upon recommendation of the executive council the following were elected to active membership: Messrs. Wm. T. Clay, Elbert W. Chalfont and Henry E. Millson.

The following officers for 1921-1922 were elected: President, Mr. H. W. Trudell; Vice-President, Mr. J. S. Frankenfield; Secretary, Mr. S. G. Gordon, and Treasurer, Mr. H. W. Warford.

Mr. Knabe reported a trip taken by Mr. Warford, himself and several friends to the Perkiomenville quarry where they were met by Mr. Tallis. Stilbite and epidessmine were the main finds. Mr. Biernbaum reported a trip taken with Dr. Wills to Leiper's and Deshong's quarries with negative results.

Mr. Hoadley reported having visited a number of New England localities during the past summer. Mr. Hagey exhibited, on the screen, an interesting collection of lantern slides dealing with mineralogical and geological subjects.

After adjournment refreshments were served in honor of the twenty-ninth anniversary of the Society.

J. S. FRANKENFIELD, *Secretary pro tem.*

NEW YORK MINERALOGICAL CLUB

Regular Monthly Meeting of October 19, 1921

The regular monthly meeting of the New York Mineralogical Club was held in the Assembly Room of the American Museum of Natural History on the evening of Wednesday, October 19, at 8.15 P.M. The President, Dr. George F. Kunz, presided and there was an attendance of 21 members. The name of Mr. I. Newgrass was submitted to the Committee on Membership. The Committee reporting favorably, Mr. Everett D. Carlson, Mr. Frederick M. Taylor, Miss Ethel M. Egan, and Mr. Newgrass were duly elected to membership. A new Committee on Change of Name being voted the Chair appointed Mr. F. I. Allen, Mr. Manchester and Mr. Stanton. For the Election Day Excursion, Mr. Hoadley suggested Great Notch and as alternatives South River, 194th Street, and the Sing Sing Quarries. Mr. F. I. Allen suggested some Staten Island localities, and after discussion it was voted that these be visited.

Proceeding to the Symposium on the minerals collected during the summer, Mr. Hoadley described trips to Lundy Hook, Long Hill, Middletown District, Cobalt, White Rocks, Strickland Quarry and Easthampton, Connecticut; Sterling Mine, Orange Co., the Amity Localities (Mt. Adam and Mt. Eve), Lake Mombasha south of Monroe, Forest of Dean, and Queensboro, N. Y.; McAfee, Rudeville and the Atlas Quarry, Franklin Furnace District, N. J. A large number of minerals were found at these places. He spoke of the Philadelphia Mineralogical Society as an enthusiastic body of collectors, very active in field excursions, and having a record of about 80% of the membership at the

meetings. After general discussion the Chair appointed a Committee consisting of Messrs. Hoadley, Scott and Whitlock to arrange for Sunday trips during the spring and summer, to report at the January meeting. The Chair suggested a special meeting for the Newark Club and appointed Mr. Broadwell a committee of one to arrange such a meeting.

It was then moved that a map be prepared to plot the localities within twenty-five miles of New York and that a committee be appointed to prepare it; the Chair appointed Messrs. Lee, Manchester, Hoadley and the President (*ex officio*).

Mr. Manchester described the Providence limestone localities including Lincoln, R. I.; the localities at 163d Street and 207th Street and Sherman Ave. (ilmenite) in Manhattan; a new quarry at Bedford and recent conditions in Strickland's Quarry, Middletown. Mr. O. I. Lee displayed recent specimens of quisquite, pascoite and hewettite from Peru; "Kentsmithite" from Norwood, Colorado, a complex vanadium compound whose exact composition is difficult to determine, the specimens carrying many associated uranium and vanadium compounds; and allanite from Lac a Bonde, Quebec, were also shown. Mr. Lee also called attention to the recent lecture before the New York Section of the American Chemical Society by Prof. Chamot of Cornell University on "Chemical Microscopy."

Mr. F. I. Allen showed some cesium beryl from Strickland's Quarry, having a specific gravity of 2.80. Mr. Hoadley raised the question of the recent finds of cyprine and holdenite from Franklin. Mr. Whitlock showed some striking specimens of chalcophyllite from the Braden Mine, Rancagua, Chile.

Dr. Kunz announced the finding within the past two months of an elongated flat crystal of diamond, white in color and weighing 20.31 carats in the diamond mines at Indian Creek, Little Missouri River, Murfreesboro, Pike Co., Ark. This constitutes the largest diamond which has hitherto been found in North America. He exhibited two diamond crystals from the same locality, a yellow hexoctahedron of 17.85 carats and an elongated brown crystal of 11.21 carats, also an opaque brown zircon from Queensland, and a specimen of diamond-bearing rock from Brazil, which is known as "draperite." Dr. Kunz also showed some photographs of large groups of amethyst and of a jade boulder weighing over $4\frac{1}{2}$ tons from Australia.

HERBERT P. WHITLOCK, *Secretary*

NEWARK MINERALOGICAL SOCIETY

Newark, N. J., October 27, 1921

The Newark Mineralogical Society opened the season with its forty-first regular meeting. An interesting and instructive program has been planned for the winter meetings. During the past summer the Society had one outing to Portland, Conn. and visited the Strickland quarry located there. No other outings were held but several of the members reported that they had visited a large number of localities.

Mr. Broadwell exhibited a specimen of fluorescent willemite from Franklin that plainly showed the phenomenon in daylight with only the aid of magnesium ribbon. Meeting then adjourned.

WM. H. BROADWELL, *Secretary*

BOOK REVIEW

CRYSTALLOGRAPHY: A SERIES OF NETS FOR THE CONSTRUCTION OF MODELS ILLUSTRATIVE OF THE SIMPLE CRYSTALLINE FORMS. JAMES B. JORDAN. D. Van Nostrand Co., New York; Thomas Murby & Co., London, EC., 1921. \$1.00.

This publication consists of a series of diagrams intended to be pasted on sheets of cardboard, cut out, scored, and folded, and finally to be stuck together so that each makes a model of a simple crystal form. If more than one model of the same form is desired, the intersections of lines may be pricked thru the paper onto cardboard, and this repeated until the required number is obtained. A different colored paper is used for each system, and the models average 5 cm. in diameter when finished. Models of this sort are very helpful to anyone who wishes to gain an idea of the geometrical relations of crystals, but who finds it difficult to visualize the solids from the diagrams of them given in text books. These diagrams are carefully worked out, and can be highly recommended to the student of the subject. W.

NOTES AND NEWS

On November 10 Dr. phil. Waldemar Christofer Brøgger, formerly professor of mineralogy and geology at the University of Kristiania, Norway, and director of the mineralogical and geological museum of that city, reached his 70th birthday. A letter of congratulation was addressed to him by the Mineralogical Society of America, signed by the members of the council and sent so as to reach him on this date.

Professor V. Vernadsky, the eminent Russian mineralogist and geologist now living in the scientists' colony in Petrograd, is reported to be in poor health. It is hoped that funds can be raised to give him a vacation by bringing him to this country to give a series of lectures on his researches on radium and on the distribution of the elements in the earth. Professor Edward S. Dana (Yale University, New Haven, Connecticut) is endeavoring to collect the money for this purpose, and if any fellow or member of the Mineralogical Society of America can contribute, they are urged to do so. Professor Dana reports that contributions from the membership of the society toward the Tschermak and Von Lang funds were disappointingly small, and that most of the money was obtained from outside sources; can we not do better this time?

Mr. Samuel G. Gordon of Philadelphia, has returned from a six months' visit to South American mineral localities.

In the interest of complete bibliographic record, it may be noted that the reference to the announcement of the new mineral or mineraloid "cesarolite" (*Am. Min.*, 5, 211, Dec. 1920) is as follows: *Ann. soc. geol. Belg.*, *Bull.* 43, 239-241, 1920.

The Brooklyn Standard Union, of Sunday, May 8th, devoted half a page of its illustrated section to the first motion picture camera and its inventor, Mr. Wallace Goold Levison, former Editor of this magazine.

NEW MINERALS—DOUBTFUL SPECIES

FAMILY 2. SULFIDES, ETC.

(Unnamed)

S. PIÑA DE RUBIES: A new antimoniferous bismuth sulfide mineral. *Anales soc. españ. fis. quim.*, **18**, 335–338, 1920.

PHYSICAL PROPERTIES: Metallic. Structure fibrous. $H. = 2$; sp. gr. = 6.8. Unusual in conducting electricity.

CHEMICAL PROPERTIES: Analysis leads to formula $8\text{Bi}_2\text{S}_3 \cdot \text{Sb}_2\text{S}_3 \cdot \text{Bi}_2(\text{Se}, \text{Te})_3$.

OCCURRENCE: Found associated with "oruetite" (*Am. Min.*, **4**, 152, 1919).

DISCUSSION: [This, like "oruetite," is clearly a mixture or solid solution, and it is fortunate that the author in this case did not venture to name it. A mineragraphic study of it would be interesting.] E. T. W.

FAMILY 7. PHOSPHATES, ETC.

Schafarzikite

JOSEPH A. KRENNER: Schafarzikit, ein neues Mineral. (Schafarzikite, a new mineral.) Presented to the Hungarian Scientific Academy, January 15, 1915; published in *Zeitschrift für Kristallographie*, **56** (2), 198–200, 1921 (after death of author).

NAME: In honor of Professor Franz Schafarzik of Budapest.

PHYSICAL PROPERTIES: Color red, resembling kermesite. Cleavage perfect on 1st and 2d prisms, best on (110).

CRYSTALLOGRAPHIC PROPERTIES: Tetragonal, holohedral. $a:c = 1:0.9787$. Forms a (100), c (001), v (201), e (102), l (301), r (312). Habit prismatic to thick-needle-like, vertically striated.

CHEMICAL PROPERTIES: Gives qualitative tests for iron and phosphorus, and since it is isomorphous with trippkeite, which is supposed to be a copper arsenite, it is suggested to be an iron phosphite.

OCCURRENCE: Occurs in the antimony mine at Pernek, Comitát Pozsony, mingled with the independent of the oxidation products of the stibnite, especially valentinite, senarmontite and kermesite. W. F. F.

DISCUSSION: [Crystallographically this is near eosite, heldburgite and trippkeite, but curiously enough the composition of none of these is known. It should not be accepted as a distinct new species until enough material is found for further chemical work and for optical study.] E. T. W.

FAMILY 9. SILICATES

Ferroanthophyllite

EARL V. SHANNON: Description of ferroanthophyllite, an orthorhombic iron amphibole from Idaho, with a note on the nomenclature of the anthophyllite group. *Proc. U. S. Nat. Mus.*, **59**, 397–401, 1921.

NAME: From *ferrum*, iron, and the mineral name; preferred to iron-anthophyllite, the translation of the German term eisenanthophyllit (used by Palmgren, 1917). "This nomenclature is in accord with that recently used by American mineralogists to designate end-members of isomorphous groups."

PHYSICAL PROPERTIES: Color pale grayish green, olive green when moist; luster silky; soft; sp. gr. 3.24. Structure splintery-fibrous; resembling impure chrysotile.

OPTICAL PROPERTIES: Refractive indices: α 1.668, γ 1.685, $\gamma - \alpha$ 0.017, all \pm 0.003. 2V large. Pleochroism distinct in aggregates, α pale brownish green, γ deep brownish green. Extinction parallel; elongation +.

CHEMICAL PROPERTIES: Before the blowpipe fuses at high temperature to a magnetic slag. Reacts for Fe and Mn. Analysis on material shown to be pure by optical study gave: SiO_2 49.30, Al_2O_3 1.30, Fe_2O_3 2.15, FeO 30.50, MnO 3.48, CaO 10.73, MgO 0.66, $\text{H}_2\text{O} - 0.18$, $\text{H}_2\text{O} + 2.13$, sum 100.43 per cent. After deducting the Al_2O_3 and Fe_2O_3 as gedrite, but admitting the $\text{H}_2\text{O} +$ as constitutional, this gives the ratio $\text{RO} : \text{SiO}_2 = 1.00 : 1.02$, so that the formula may be stated as: $(\text{Fe}, \text{Ca}, \text{H}_2, \text{Mn})\text{O.SiO}_2$.

OCCURRENCE: Associated with galenite, in the Tamarack-Custer mine near Gem, Coeur d'Alene District, Idaho. Found also in the Hercules mine in the same district.

DISCUSSION: Here belongs also the "anthophyllite" which appeared to be an iron metasilicate described by Warren from Cape Ann, Mass., in 1903; and the "eisenanthophyllit" from Sweden described by Palmgren in 1917.

[Preferably classed as a sub-species. Abstractor.] E. T. W.

Magnesioanthophyllite

EARL V. SHANNON, *loc. cit.* (preceding abstract). The chemical name of the magnesium end-member of the anthophyllite series, complementary to the above name, ferroanthophyllite. The possibility of the existence of Ca and Mn end-members is also indicated (but they need not be named until actually found). E. T. W.

Amosite

This mineral was announced about two years ago in this column (*Am. Min.*, 5, 16) but was included under doubtful and discredited species because the original description was incomplete. Another paper including data upon it has recently been received: A. L. Hall, Asbestos in the Union of South Africa. *Un. S. Afr. Geol. Survey, Mem.* 12, 152 pp., 1918. The average of 7 rather wide-ranging analyses, with Fe_2O_3 recalculated to FeO , gives: SiO_2 49.58, Al_2O_3 2.25, FeO 39.64, MgO 4.79, CaO 0.53, H_2O 3.16, sum 99.95%. This being very close to the composition of grunerite and of ferroanthophyllite, it seemed desirable to study amosite optically.

A specimen of "amosite" was obtained thru the kindness of Mr. E. B. Sampson of the U. S. Geological Survey and examined by the abstractor. It showed, within the limits of error of measurement, the exact optical properties of ferroanthophyllite as above given. The latter name, in its German form, has priority. "Amosite" therefore comprises both grunerite (the original monoclinic material) and ferro-anthophyllite. E. T. W.

ABSTRACTS—MINERALOGY

ARTIFICIAL PRODUCTION OF A VARIETY OF COTUNNITE.

STANISLAS MEUNIER. *Compt. rend. somm. Soc. géol. France*, 1918, 32-34; thru *Rev. géol.*, 2 (4), 132, 1921.

Crystals of potassium-bearing cotunnite formed on a specimen of impure fluorite left in HCl for 27 years. E. T. W.

THE DETERMINATION OF THE URANIUM AND THORIUM CONTENT OF MINERALS BY MEASURING THEIR RADIOACTIVITY. L. H. BORGSTRÖM. *Finska Kemistsamf. Medd.*, 1917, 14 pp. (Swedish with English summary).

The mineral is finely ground in an agate mortar, mixed into a paint with chloroform, and brushed on a surface several centimeters square. The compounds show 10-15 per cent. less discharge time in a film containing 10 mg. than in one with 7 mg. per sq. cm., while U compounds show no difference. On this basis and also the formula R (discharge time in minutes) = $0.07 U + 0.02 Th$, the percentages of each element can be calculated. Agreement with analytical results is sufficiently close to indicate that this method will be of value for identifying minerals. E. T. W.

THE RELATIONS BETWEEN TRIDYMITÉ AND CRISTOBALITE.

CLARENCE N. FENNER. *J. Soc. Glass Techn.*, 3, 116-125, 1919.

Former work has been confirmed, and criticisms answered. At the highest temperatures all the other forms of silica go definitely to cristobalite; at lower temps. tridymite and still lower quartz have been produced from other forms. The melting point of cristobalite is about 1710° C., while that of tridymite is lower. E. T. W.

FLUORESCENCE. J. PERRIN. *Ann. phys.* [9], 10, 133-159, 1918.

A THEORY OF TRIBOLUMINESCENCE. A. IMHOF. *Physik. Z.*, 20, 131-132, 1919.

For full abstracts of these papers, in which data of interest in the study of luminescent minerals are given, see *Chem. Abstr.* 13 (23), 3078-3079, 1919.

THE BIREFRINGENCE OF LUDLAMITE. H. BUTTGENBACH. *Ann. Soc. Géol. Belgique*, 42, (Bull.) 69, 1919; thru *Min. Abstr.*, 1, 14, 1920.

A mean value of 0.0142 was obtained on a basal cleavage plane of a crystal from Cornwall, from which was computed $\gamma - \alpha = 0.0269$. W. F. H.

BLUE JOHN AND OTHER FORMS OF FLUORITE. BERTRAM BLOUNT AND J. H. SEQUEIRA. *J. Chem. Soc.*, 115, 705-709, 1919.

The fluorite studied occurred in limestone in the Castleton District, Derbyshire, lining the walls of fissures, etc., associated with barite. The different colored varieties (blue, violet, green, and colorless) appeared to be identical in composition, except that the blue contains "organic matter" which is driven off at 350° , and is thought to be the source of the color. The action of radium and X-rays on these fluorites is similar to that on glass, so it is concluded that the colors are not due to radioactive processes, as has been supposed. S. G. G.

ADDITIONS TO LIST OF NEW MINERAL SPECIES DESCRIBED DURING 1916-1920

The list published in the January number of this volume may be made more complete by copying the strips herewith (between the horizontal lines) one on each page, from 13 to 17 inclusive.

Ultrabasilite (unnamed) "Goldfieldite"	$\text{Ag}_4\text{Pb}_3\text{GeSbS}_{15}$ $x\text{PbS} : y\text{Sb}_2\text{S}_3 : z\text{FeS}$ $8(\text{Bi}, \text{Sb})_2\text{S}_3 : \text{Bi}_2(\text{Se}, \text{Te})_3$	A basic sulfo-germanate. Homogeneity not demonstrated. Homogeneity not demonstrated. Shown to be a mixture.	6, 63. 2, 140. 6, 173. 3, 168.
Picrochromite Chromohercynite Paternoite "Patagosite" "Rosasite"	MgCr_3O_4 $\text{FeAl}_2\text{O}_4 : \text{FeCr}_2\text{O}_4$ $\text{H}_3\text{MgB}_3\text{O}_{17}$ CaCO_3 $(\text{Cu}, \text{Zn})_2(\text{OH})_2(\text{CO}_3)$	Subspecies not heretofore separated. Subspecies of hercynite. A new borate. A decrepitating variety. A variety of malachite.	6, 165. 6, 140. 6, 94. 6, 140. 6, 166.
Armangite Trigonite Phosphophyllite "Duftite" "Kreuzbergite" "Phosphoferite" "Xanthoxenite" "Schafazakite" (unnamed)	$\text{Mn}_3(\text{AsO}_3)_2$ $\text{HMnPb}_3(\text{AsO}_3)_3$ $9\text{R}''\text{O} : 3\text{Al}_2\text{O}_3 : 3\text{P}_2\text{O}_5 : 2\text{SO}_3$ $+ 12\text{H}_2\text{O}$ $\text{CuPb}(\text{OH})(\text{AsO}_4)$ An Al-Fe phosphate An Fe phosphate An Fe phosphate An Fe phosphate An Al phosphate	A new arsenite. A new arsenite. A new sulfato-phosphate. Inadequately described. Variety of childrenite(?). Variety of sarcopside(?). Variety of beraunite(?). Composition unknown. Adsorption product.	6, 64. 6, 92. 6, 65. 6, 140. 6, 66. 6, 67. 6, 68. 6, 173. 6, 140.
Toernebohmite Dixenite	$(\text{Ce}, \text{La})_3(\text{OH})(\text{SiO}_4)_2$ $(\text{MnOH})_2\text{Mn}_3(\text{SiO}_2)(\text{AsO}_3)_2$	A new rare-earth silicate. A new arsenosilicate.	6, 118. 6, 93.
"Melanochalcite" "Aegirite-hedenbergite" (unnamed)	$(\text{Fe}, \text{Ca}, \text{Na}_2)(\text{SiO}_3)$ A Mn silicate	Shown to be a mixture. A variety of aegirite. A variety of inesite.	1, 14. 6, 105. 3, 48.